

## AMENDMENTS TO THE CLAIMS of SN 10/055,318

Amend the claims as follows.

## CLAIMS

1(Currently Amended). ~~A~~ The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents, where N is an integer greater than 1, comprising the steps of:

dividing the sample into N parts; and

performing a separate detection process on each of the N parts of the sample to define a plurality of N detection processes, each of said N detection processes employing molecular interactions to uniquely identify bioagents, each of said separate detection processes of said plurality ~~possessing a capability to detect a~~ of N detection processes for detecting the presence of any bioagent within a defined ~~from a~~ collection of ~~known~~-bioagents found within said plurality of  $2^N-1$  different bioagents, said defined collection of ~~known~~-bioagents detected by ~~of~~ any one of said separate detection processes in said plurality of N detection processes being different from the collection of ~~known~~-bioagents detectable that is detected by any other of said separate detection processes in said plurality of N detection processes; said collections of bioagents in total including said entire plurality of  $2^N-1$  different bioagents, and wherein the collective result of said plurality of N detection processes identifies an individual one of said plurality of  $2^N-1$  bioagents.

2 (Cancelled).

3(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 2 1, wherein each of said plurality of N detection processes comprises an enzyme linked immunoassay ("ELISA") process.

4(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 3, wherein said integer is 2.

5(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 3, wherein said integer is 3.

6(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 3, wherein said integer is 4.

7(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 3, wherein said integer is 5.

8 (Currently Amended). ~~The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  bioagents in a sample containing a bioagent as defined in claim 1, wherein~~ A method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents, where N is an integer greater than 1, comprising the steps of:

dividing the sample into N parts; and

performing a separate detection process on each of the N parts of the sample to define a plurality of N detection processes, each of said N detection processes employing molecular interactions to uniquely identify bioagents, each of said separate detection processes of said plurality of N detection processes for detecting the presence of any bioagent within a defined collection of bioagents found within said plurality of  $2^N-1$  different bioagents, said defined collection of bioagents detected by any one of said separate detection processes in said plurality of N detection processes being different from the collection of bioagents that is detected by any other of said separate detection processes in said plurality of N detection processes; said collections of bioagents in total including said entire plurality of  $2^N-1$  different bioagents, and wherein the collective

result of said plurality of N detection processes identifies an individual one of said plurality of  $2^N-1$  bioagents, said step of performing said separate identification process on each of said N parts includes the steps of:

coating beads in N different collections and coating each collection of beads in said N different collections with receptor molecules for less than said  $2^N-1$  multiple different bioagents but in which said N different collections contain collectively receptor molecules for all of said  $2^N-1$  multiple bioagents, with one of said receptor molecules in each ~~collection~~ of said collections being a receptor for the same bioagent, and with another of said receptor molecules in each ~~collection~~ of said collections being unique amongst the receptor molecules ~~of~~ contained in all other of said collections; and

applying each collection of coated beads in a respective one of said separate identification processes.

9(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 3, wherein said step of performing said separate ELISA process on each of said N parts includes the steps of:

coating beads in N different collections and coating each collection of beads in said N different collections with receptor molecules for less than said  $2^N-1$  multiple bioagents but in which said N different collections contain collectively receptor molecules for all of said  $2^N-1$  multiple bioagents, with one of said receptor molecules in each collection being a receptor for the same bioagent, and with another of said receptor molecules in each ~~collection~~ of said collections being unique amongst the receptor molecules ~~of~~ contained in all other of said collections; and

applying each collection of coated beads in a respective one of said separate ELISA processes.

10(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N-1$  different bioagents as defined in claim 9, wherein said step of

coating each collection of beads in said N different collections with receptor molecules for less than said  $2^N - 1$  multiple bioagents, includes the step of:

coating individual groups of beads with receptor molecules for individual bioagents of said collection and mixing said groups together to form a collection of beads containing receptor molecules for the bioagents in said collection.

11(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N - 1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N - 1$  different bioagents as defined in claim 9, wherein said step of coating each collection of beads in said N different collections with receptor molecules for less than  $2^N - 1$  multiple bioagents, includes the step of:

coating beads with receptor molecules for the bioagents of said collection.

12(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N - 1$  different bioagents in a sample containing a bioagent of said plurality of  $2^N - 1$  different bioagents as defined in claim 9, includes the step of:

compounding a conjugate solution for said ELISA process in which said conjugate solution contains secondary antibody-enzyme conjugate ("2°Ab-Enz") molecules for at least each of the bioagents in said collection.

13(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N - 1$  bioagents in a sample containing a bioagent of said plurality of  $2^N - 1$  different bioagents as defined in claim 1 further comprising the step of comparing the results of the tests with a chart, said chart correlating the test results of the N detection processes to specific bioagents, and determining the bioagent identified by said chart.

14(Original). A method of testing for bioagents, comprising:

dividing a sample into at least N portions; and

performing a plurality of N tests for bioagents concurrently on respective portions of said sample to determine the existence of any one of a plurality of  $2^N-1$  bioagents in said sample, where N is an integer greater than 1.

15(Currently Amended). The method of determining the existence of and identifying any one of a plurality of  $2^N-1$  different bioagents in a sample containing a single bioagent, where N is a number selected from the series of integers comprising 2, 3, 4, 5....x, comprising the steps of:

dividing the said sample into N parts;

distributing said sample amongst N separate ELISA processes; and

performing a separate enzyme linked immunoassay ("ELISA") process on each of the N parts, concurrently to produce N results, each of said N results constituting either an affirmative or negative indication of the presence of one of said plurality of different bioagents in a respective one of said N parts of said sample wherein said N results collectively serve to identify the bioagent contained in said sample; detect if said bioagent is one that is within a collection of bioagents that the respective ELISA process is able to detect, each of said N separate ELISA processes possessing the capability of being associated with a pre-defined collection of said plurality of  $2^N-1$  different bioagents for detecting the presence in a sample of any one bioagent of said associated predefined collection of said plurality of  $2^N-1$  different bioagents, the collection of said plurality of  $2^N-1$  different bioagents associated with any one of said N separate ELISA processes being different from the collection of said plurality of  $2^N-1$  different bioagents associated with any other one of said N separate ELISA processes of a bioagent from amongst a unique collection of bioagents, said collection of possible bioagents identifiable by any one of said separate ELISA processes being different from the collection of possible bioagents identifiable by any other of said separate ELISA processes, wherein the collective result of said identification process of all of said N parts identifies an individual one of said plurality of  $2^N-1$  bioagents; and analyzing said N results to identify the bioagent in said sample;

said step of performing a separate enzyme linked immunoassay ("ELISA") process on each of the said N parts of said sample, including the steps of:

coating beads in N different groups and coating each group of beads in said N different groups with the receptor molecules of a predefined collection of bioagents, said collection of bioagents constituting for less than said plurality of  $2^N - 1$  multiple different bioagents but in which said N different groups collectively contain receptor molecules for all of said plurality of  $2^N - 1$  multiple different bioagents, with one of said receptor molecules in each said group being a receptor for the same bioagent, and with another of said receptor molecules in each said group being unique amongst the receptor molecules of all other of said N different groups;

~~coating individual groups of beads with receptor molecules for individual bioagents of said collection and mixing said groups together to form a collection of beads containing receptor molecules for the bioagents in said collection; xxxx make a dependent claim by modifying the coating of a "group"~~

compounding a conjugate solution for each said ELISA process in which said conjugate solution contains 2°Ab-Enz molecules for at least each of the bioagents in said predefined collection; and

applying each of said N groups group of coated beads in a respective one of said separate ELISA detection processes.